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Balancing Standardization and Flexibility

The role of an IT-system in three organizations

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Abstract

The use of customized technologies has increased moving from using standardized modules towards capturing local variations affecting the role of IT-systems in contemporary society. This trend identified in both research and practitioners studies is thought to continue. The new role of IT-systems it thought to both contribute with standardization and customization of business processes. The method of research in this thesis is a qualitative study were 20 people from four different organizations has been interviewed to capture their accounts of reality and use of an IT-system. The first five interviews were conducted with the case company developing a flexible IT-system customized to match the customer's organizational structures. The following 15 interviews were conducted with employees of three municipalities. We have used a grounded theory method to approach and systematically analyze our data. The empirical finding shows that the introduction of a flexible IT-system has contributed with coherence and structure through increased transparency while simultaneously being adapted to previous reporting practices and local variations. Our findings show that depending on hierarchical levels what incentivizes the one or the other differs. There are two processes appearing simultaneously and the IT-system is used both to increase standardization and flexibility. These processes represent tensions that need to be managed and evolvement is determined on actions promoted. Standardization is amplified by the search for efficiency, structure, coherence and transparency, and entails central control over the reporting practice. Flexibility is amplified by responsiveness to a local context and represents an alignment of operational motives. The two processes identified shows that the IT-system and the flexible nature of it both facilitate and constrain human action. Standardization and flexibility is not mutually exclusive but coexist and coevolve in relation to each other.

Keywords
Standardization, flexibility, IT-system, customization

Introduction

In today's society organizational life is highly intertwined with the life of organizational technologies as its integration and use affects the way work is carried out (Pollock & Williams, 2009; Ullah & Lai, 2013; Manda & Herstad, 2015). A pronounced reason for the adoption of Information Technology Systems (IT-systems) is said to originate from the need to standardize and manage business processes and in extent from the organizational wish to align internal business interests (Pollock & Williams, 2009). Further reasons found when studying what incentivizes organizations to adopt IT-systems, is the aim to increase communication between hierarchical levels, to facilitate internal knowledge transfer, and to make routines and everyday practices more efficient (Nilsson, Eriksén & Borg, 2016). Traditionally, efficiency is thought to be accomplished through standardization where IT-systems are widely used to map out business processes and to facilitate means to control organizational interaction (Rikhardsson & Kræmmergaard, 2005). Furthermore based on the findings of Rikhardsson and Kræmmergaard (2005) IT-systems shape business processes as they are commonly altered to match the underlying structure of the IT-system. However this notion, that IT-systems one sidedly shape organizational processes has been challenged as the field of research progress showing that organizations battles the tension between adaptability and stability which has implications for the design and use of IT-systems (Dönmez, Grote & Brusoni, 2016). The alignment of conflicting interest has given birth to paradoxical consequences in organizations such as the dual search for both centralization and localization, generalizability and customization, stabilization and dynamization to mention a few (Pollock & Williams, 2009). What has been derived from previous research and that is interesting to further study is the intricate relationship between the organizational need to routinize behavioral patterns and yet remain responsive to local variations through the use of IT-systems. The need for organizations to be responsive to local needs as well as having internal coherency has affected what is demanded from an IT-system; the need to balance adaptability and stability has according to Dingsøyr and Lassenius (2016) resulted in increased use of agile software development. This means that rather than creating generic IT-systems the designing firms increasingly customize its product to enhance integration and adapt to local variations, thus the IT-system is supposed to facilitate both generalization and customization. This trend; of increasingly customized IT-systems is thought to be long-lived and impact organizational becoming and the role of IT-systems (Dingsøyr & Lassenius, 2016). The call for other types of IT-systems identified by academics has consequently been responded to by practitioners, and the IT-systems new role as a facilitator of both generalization and customization bring about paradoxical processes as stability and adaptability is commonly perceived as contradictory (Pollock & Williams, 2009). As the need for adaptable yet generic IT-systems evolves we argue that it is of relevance to study how this dual role influences organizations as well as its effects on the relationship between technology and human actors.

To study this trend; that IT-systems on one hand promotes coherence and on the other hand is adjusted in accordance to local variations this thesis will investigate the use of an IT-system promoted as being adaptable to local variations. Previous research has generated conflicting conclusions in regards of the role of IT-systems and its effects on organizational processes.

More concretely, in order to contribute to previous research and thus address the tension between customization and generalization this thesis reports on a case study of the introduction and use of a adaptable IT-system that is built by the case company together with the customers to fit an existing management model. The system is developed to support and match existing management models of the customer organizations, and based on this adjustability it is promoted as customizable rather than as a generic module. The customer's management model forms the base for the layout and structure of the system, where different technological functions are joined together in a variety of different combinations to best fit the customer's planning and reporting practices. This piecing together is done in dialogue with the case company consultants and the customer organization whose main purpose for purchasing the IT-system is to create a common structure while simultaneously responding to local organizational variations. These conflicting motives represents interesting tensions that will be addressed and analyzed through this case study which is of relevance due to the increased use of IT-systems that are both facilitating structure and the means to manage local variations. The main purpose of this study is to investigate how an IT-system promoted as adaptable evolves in a local setting of three organizations and to through this case study add to previous research an increased understanding about what processes occur when a conformative IT-system is used. To be able to fulfill this purpose the phenomenon has been studied using a qualitative method and analyzed using practice theory, thus delimited to investigating the interviewees' account of using the IT-system. The aim is to understand and analyze how a conformative technology such as the IT-system is altered to fit the practices of an organization, and how these practices are altered to facilitate a fit between the IT-system and the practices of business planning and reporting. Furthermore the study shows how to address the processes of standardization and flexibility, and unveil what role the IT-system plays in these processes. Thus the study will answer the following;

What consequences does the use of an adjustable IT-system have on the balancing between flexibility and standardization in an organization?

Theoretical framework

The theoretical framework presents the tools used to analyze the complex attributes of an IT-system being standardized to be suitable for the wide customer base at the same time flexible enough to cover local needs. Also emphasized in this report are the relationships between the IT-system, organizational structures, and human actors, where in this case the human actors are constituted of developers and consultants at the case company as well as managers at different levels of the municipality. To be able to map the shaping forces in this compound relationship we will address non-human actors or more specifically technology and organizational structures as both physically and socially constructed, as argued for by Orlikowski (1992). IT-systems, structures and routines are all examples of material that are influenced by, and that influences organizations (Orlikowski 1992; Leonardi, 2011; Leonardi et al., 2012).

This influencing power, or material and human agency, was discussed by Orlikowski (1992) as duality of technology where technology is physically constructed by designers in one context and then made sense of by users in accordance to their context. The technology might therefore not be used in organizations exactly as meant by the designers since being reified and institutionalized by users and the institutional properties of the organization it is being implemented in (Orlikowski, 1992). Orlikowski (2000) has then evolved this notion further through the concept of recursivity where development of technology is affected by the users' knowledge, experience, habits etc. The practices of the users' are then shaping the future use of the technology, which is thus emergently constituted. The power relation of human and material agency is then further developed by Leonardi (2011) who take the stance of those agencies being overlapped, using the metaphor of imbrication. In this interdependent relation primacy is given to the design and use of human actors, and Leonardi (2011) express that routines and structures are the result of the imbrication of human and material agency. The key point from both Orlikowski (1992; 2000) and Leonardi (2011) is that IT-systems and human actors affect each other and will continue to do so. Thus, it becomes clear that IT and social practices are highly intertwined and shapes one and other (Manda & Herstad, 2015). Hence, changes in one will have implications for the other and as time progress this relationship and its effects will unfold continuously. Besides the shaping power of IT-systems and social practices another shared understanding generated through practitioners and academic studies discussed by Leclercq-Vandelannoitte (2015) that is relevant for our understanding of the studied phenomenon is the importance of user acceptance. This view, that people intended to use the system accept the system and therefore use it, has been thoroughly investigated and resulted in a somewhat shared understanding amongst researchers (Leonardi et al., 2012). The importance of user's involvement in the development of IT-systems and the systems easiness are some determining factors to whether or not a systems intended usage will be realized (Leclercq-Vandelannoitte, 2015). This agrees with Orlikowski's (1992; 2000) and Leonardi's (2011) line of thought that human actors, both designers and users, shape the use of IT-systems. Thus it is agreed upon that the people using the system has influencing power over technological use and practices. To continue to discuss the importance of the practices being performed and the use of technology, Orlikowski (2000) explain that it is common to focus on the tangibility and stability of a technology being implemented and how it might be perceived as successful once being installed even though the use of it might not be as intended by designers. This implies that users' either use technology as intended or that they disregard, invent new or work around certain attributes of it.

When using technology in contemporary societies rather dynamic and complex organizations, the lens of practice theory focusing on relations and dynamics is applicable since the development of technology is continuous (Feldman & Orlikowski, 2011). The human actor can change their way of using a specific technology and thus enabling a constant reconstruction process, it is not the general use of a technology in an organization that matters but rather the individual use in a specific context (Orlikowski, 2000). The same can be said for routines being situated, recognizable and recurring actions performed by a multitude of actors (Feldman, Pentland, D'Adderio & Lazaric, 2016). Recreating and transferring routines

is described by Feldman et al. (2016) as very effort intensive, and as the repeated action pattern is and ought to be carried out by many actors, they are shaped and altered in relation to its social embeddedness. Consequently, when analyzing organizational practices, objects being used, people involved and their reflections and non-reflections about their actions, one should be aware of that; even though repeated action patterns may appear stable in a given moment alterations small and big will occur affecting the way work is carried out. Thus the extent and size of the alterations might hide them from sight as they are continuously progressing (Feldman et al., 2016). In agreement with this thought of perceived stability through alterations Leonardi and Barley (2008:161) says that *"material properties of artifacts are exactly those tangible resources that provide people with the ability to do old things in new ways and to do things they could not do before"*. This line of reasoning is in agreement with Feldman et al.'s (2016) findings that technologies can be used to reinforce existing practices, resulting in an increased perceived stability as well as opening up for the possibility to engage in new practices. One important takeaway for this thesis and from this argument that is in agreement with Leonardi et al. (2012) is that materiality evolves; an IT-system will change over time due to updates or other alterations shifting the use and interpretation of it in the meanwhile. The authors further state that a digital artifact such as a feature or function is deemed important for some actors performing some practices, the author exemplifies this interpretation and contextual boundedness by stating that for some practitioners one headline might be of great use whereas for others it is negligible. By focusing on the practices and how technology is being used allows a deeper understanding of the recursive relation between human actors and organizational structures, and how these might change in an organization.

In regards to the set of attributes associated with technology and its dual function as both constraining and mediating practices, Kallinikos (2005) offer some insights into the role of IT-systems as tools for a new kind of technological control within organizations. Hence, large scale information systems are said to be promoters of a procedural vision, meaning that as an IT-system is put into place it comes with a set of predetermined procedural actions that are needed to carry out work and in extent makes human actions less improvisational and free (Kallinikos, 2004). Therefore, the question of whether or not users of an IT-system are constrained by the predetermined attributes physically constructed is brought to our attention by Kallinikos (2004) arguments. Another consequence of implementing an IT-system is that action patterns become more visible, building on that increased visibility of what to do and not to do when carrying out work, social practices are transformed into procedures (Kallinikos, 2004). This is in line with Leonardi's (2011) reasoning that social practices together with technology creates organizational routines and procedures as they are imbricated and therefore cannot be separated. A clear division between technological attributes and organizational procedures is difficult once a system has been institutionalized as the social action and the technological use and function is being reconstituted and reshaped in relation to organizational intent (Leonardi et al., 2012). According to Kallinikos (2004) the process of transforming practices into procedures occur as the adoption of an IT-system promotes a pre given action pattern. In extent the system represent powerful means to segment, organize and make work task more transparent as it is used to bridge organizational and geographical boundaries (Kallinikos, 2004). In our case this perspective will enable the

detection of emerging organizational procedures as a result of the introduction of the IT-system. Another takeaway from Kallinikos (2004) arguments is that IT-systems should not be seen as shaping human action one sidedly, however it is important to be aware of the fact that more structured and procedural actions will be promoted over spontan and improvisational actions when a large scale IT-system is built into an organizational setting. Based on this reasoning it can be said that IT-systems constrain some actions and promotes others and is thus a powerful tool in controlling and making behavioral patterns visible in organizations (Kallinikos, 2004).

In contrast to the static and procedural effects IT-systems traditionally has been associated with Leonardi (2011) find that the imbricated relationship between human actors and materials builds on interchange and adaptation which has lead to an increased use of flexible and customized technologies. If the IT-system is embedded in a social setting, where the skills and knowledge to make fruitful alterations or customize routines and the technology, it is perceived as flexible (Leonardi, 2011). It can be said then, and will be argued for in this thesis, that IT-systems have a flexible identity or meaning as a result of its context and human actors being a part of the same network, and it stands to reason that human skill and interaction between human actors and the IT-system results in a perceived flexibility. This will be our departing point when analyzing adjustment being made to the IT-system studied in this thesis. Furthermore we will regard the social embeddedness and the competences of human actors to express and make alterations when tracing the promoted flexibility of the IT-system.

Leonardi's (2011) arguments show that if the IT-system is embedded in a social context with sufficient skills to make alterations it will result in a flexible technology, but on the other hand Kallinikos (2004; 2005) discuss the standardization process that occur in organizations introducing a large scale IT-system. This tension, between standardization and flexibility has been addressed by Canales (2014). These conflicting terms and processes often occur in organizational settings where the need for both efficiency and adaptation to local needs is equally important (Canales, 2014). Flexibility is described as adjustments and alterations being made in response to the local context and standardization is linked to the search for efficiency. Thus there is a prioritization between the two where organizational efficiency is accomplished through standardization, and customization drives the need for flexibility. According to Canales (2014) findings these contradictory motives need to be addressed and managed. Efficiency is accomplished through the use of standardized centrally managed procedures and routines, and a responsiveness to local needs, meaning capable of responding to the local needs of customers and divisions, is accomplished through flexibility and local diversions from standardized procedures. The tension between flexibility and standardization addressed by Canales (2014) is further studied by Spee, Jarzabkowski and Smets (2016), where the authors find that the need for flexibility, or room for adjustments, arises in settings where there is a high need of customization. These findings largely agree with Canales (2014) arguments about what incentivizes flexibility. Customization drives the need for flexibility (Spee et. al, 2016) or using Canales (2014) words; responsiveness to local needs is accomplished through flexibility. The authors definition of what is accomplished through

standardization is also well aligned. Spee et al. (2016) as well as Canales (2014) conclude that standardization enhances efficiency through repetition and coherence. Spee et al. (2016) further state that the coexistence of both standardizing and flexible routines allows for different types of performances generated through different actions following the two. Actions that are flexibly oriented means that local customization is amplified at the cost of more generic and standardizing actions, this relationship is dynamic and recursive. This means that in face of pressure amplifying the need for customization the routine will be more flexible and adjustable to variations, the process of standardization on the other hand will be amplified when the need for consistency is greater than the need for local adaptability. Both these processes can occur within the same organization resulting in standardization or flexibility (Spee et al., 2016).

As presented there are different organizational needs that can be accomplished through standardization or flexibility (Canales, 2014; Spee et al., 2016), and as shown by Leonardi (2011) the context, and the skills and knowledge of the people using the technology and performing the routines determine whether or not alterations will be made. This implies that the perceived flexibility is determined by responding to local needs, and from the IT-system being embedded in a social context with the knowledge of how to meet these local needs. To put this in relation to Canales (2014) and Spee et al.'s (2016) findings, they all argue that flexibility is a result of adjustments being made in response to local needs that may diverge from the standardized routines used to enhance efficiency. Danner-Schröder and Geiger (2016) adds another layer to the balancing between standardization and flexibility in regards of who determines if something is flexible. To put it simply, flexibility is in the eyes of the beholder. Danner-Schröder and Geiger (2016) state that a routine may be perceived as flexible by one person and as standardized by another, which is connected to what is discussed by Orlikowski (1992) that different actors put different meanings to things. These findings have implications for this thesis and our way of approaching processes driving flexibility on one hand and standardization on the other. Flexibility is achieved through adjustments and is said to facilitate an organizational responsiveness to local needs. This perspective will be ours as well, thus alterations and adjustments made to the IT-system will be interpreted as the IT-system being flexible. Putting some emphasis on interpreting is well aligned with what previous research such as that of Orlikowski (1992; 2000), and Danner-Schröder and Geiger (2016) has found; the notion of flexibility depends on the observer, thus something can be perceived as varying for one person and not for another. This means that the perception of flexibility is both generated through the capability to actually identify needs and the capability to find and make suitable diversions from standardized routines as argued by Leonardi (2011). Standardization on the other hand is used to align interests and create a common structure, the main identified incentive for a standardization process is that coherency increases efficiency. One important take away for this thesis as we study the intricate relationship between flexibility and standardization and how the two processes are facilitated or constrained by the IT-system is that they can happen within the same organization and that different perceptions in regards of such processes will arises depending on context and the individual.

Methodology of the study

We aim to address the linkages and conflicting incentives for an IT-system to be locally adaptable and reflect organizational procedural variations. We furthermore analyze the paradox of an IT-system being promoted to both increase a generic structure and to be used in different local contexts.

Design of the study

The three organizations were chosen based on their different experience using the IT-system in terms of duration and extent, and that they differ in size and underlying organizational structure. If we find similarities regarding the effects the IT-system has had at the municipalities, and the effects the social practices has had on the IT-system, it can be argued as basis for generalization that, if similarities are found between the municipalities we can argue that it is probable to have similar effect in other organizational contexts. Our initial ambition was that these differences presented the opportunity to make a comparison and draw conclusions on basis of organizational setting. However, after collecting the data it appeared more interesting to compare, not the three organizations but rather the different organizational levels within the municipalities. Another strength of this choice and a reason for why we decided to study municipalities is that they have equal demands on transparency as well as the fact that operational objectives are politically determined. This similarity makes it possible to analyze the flexibility of the IT-system as it is intended to be used for the same practices, namely business planning and reporting at the chosen municipalities.

Using a qualitative method when analyzing the use of a flexible IT-system enable us to analyze and go deeper in a specific case (Silverman, 2013). Flyvbjerg (2006) explain that a deeper and more profound understanding of the specific context can be achieved by the researchers if being in the field, and thus a case study has been conducted to enable us to study these processes. To deepen our understanding of the context in which the interviewees operate we conducted all interviews in their specific setting. One common misunderstanding brought up by Flyvbjerg (2006) is the one of a case study not enabling a generalization, and thus not contributing to the research. By using qualitative data collection the extremes of a case can be visualized and ergo provide the researchers with a wider understanding of the phenomenon (Flyvbjerg, 2006). According to the same author unveiling possible extremes in one case presents an opportunity to detect the occurrence of the same phenomenon in less extreme cases, and a generalization can thus be done.

Data collection

The data gathering in this study started with a meeting at the case company were information about the structure of the case company, the IT-system, and the product was provided. We gained insight of the technological functions and varying components composing the IT-system through a review of the IT-system. The first interviews were conducted with developers and consultants at the case company to attain their understanding of the IT-system

and how the case company work with developing and implementing it at their customers. The selection of interviewees was done in dialogue with our contact person at the case company, who appointed suitable persons working both in developing and consulting. The choice, of whom to interview was based on our request as we wanted to have a full picture of both technological and relational aspects from the case company perspective. The interview persons at the customer organizations were chosen in consent with the contact person at the case company and were chosen due to the ability to access. In total 20 interviews were conducted where five were at the case company and five each at the three municipalities. When gaining contact with the municipalities, emphasis was put on getting access to managers in different levels of the organization, and thus capture both the reasons behind the investment in a new system, and the managers using the system. The semi-structured interviews lasted between 30-50 minutes, and all were done in person at either the case company with developers and consultants or at the municipalities with the users.

Interview guides were constructed before the interviews with the intention to aid the execution of the interview and make sure that sufficient detail was put to the different themes we deemed most interesting. These interview guides enabled us to cover the whole area of interest yet still allowing the interviewees to steer the conversation and to direct our attention to those aspects that was most important for that particular interviewee. This was appropriate given the aim of the thesis and since we were interested in the interviewees' account of the situation. Silverman (2013) discuss how an interview guide can restrict the interviewer but also explain that it is a frame for the interviewer and one should depart from it if needed. When conducting interviews we followed this advice. Therefore, four interview guides were constructed where the frame of questions was different for developers, consultants, administrators at the municipalities being part of the decision to invest and the implementation, and the managers using the system. The guides operated as a help to restrict the area of discussion to relevant themes for the specific interviewee since having a limited amount of time. To minimize the risk of narrowing the mind of the interviewee the subject of the report were only covered briefly before the interviews enabling a wider context and deeper information from the interviews. All interviewees were asked permission to be recorded and it was made clear that the interview would be anonymous. Both authors have been present during all interviews making it possible for us to take on complementing roles, thus a division was made between different interviews in regards on who managed the interviews and who focused on follow-up questions.

Data analysis

Through the semi-structured interviews, a large amount of data was collected, and in accordance to what Turner (1981) explains in regards of capturing the understanding of others, Grounded theory was deemed appropriate. This since Grounded theory provides a strategy for how to handle the data in a structured way but still allows for empirical findings to steer the thesis. Grounded theory presents the opportunity to ground an abstract notion of a topic in the data collected (Martin & Turner, 1986), and this present an opportunity for us since the subject we wanted to study can indeed be described as complex and abstract. By

approaching the collected data with Grounded theory perspective in mind, and thus focus on the interviewees understanding of the phenomenon and letting the empirics lay ground for the study and the theoretical framework, we were able to learn about the subject whilst analyzing it and to construct broader concepts and themes grounded in the data. To be able to let the empirics drive us forth, the interviews were conducted before steering our focus towards the theoretical framework. Furthermore Martin and Turner's (1986) description of Grounded theory as a way for researchers to address and acknowledge the complexities of the organizational context also aided our choice. As we conducted interviews at three municipalities and at the case company, and wished to analyze and compare the empirical findings it was deemed important to use a methodology that allow for variations and influencing local contextual factors.

In line with what Silverman (2013) discuss, the interviews were continuously transcribed and coded during the data collection, and concepts occurring repeatedly were deemed most interesting. In order to inform ourselves of how to best approach the data by using Grounded-theory we used previous research that has used the same methodology as an inspiration study such as the one by Spee et al. (2016). This study aided us in the process of constructing descriptive labels that was derived from the terminology used by the interviewees. These concepts that was discussed repeatedly by the interviewees was; the complexity of having several systems, the structure of the municipality model, routines, learning the system and restrictions, to mention a few. The concepts differed depending on if the interviewee worked at the case company or the municipality, and thus they were kept separated to start with. These concepts were then combined when appropriate and narrowed down to four themes. These four themes were as follows; the impact IT has on organizational structures, the impact the organizational structures has on IT, the role of the human actor, and the standardization and flexibility of the system. Thus the data analysis started after the first interviews and was done in phases starting with transcribing and leading to four themes that have made ground for the theoretical framework of this report. As discussed by Langley (1999) the core concepts of the coding appeared early on in the process and the later interviews being coded were done in accordance to the themes that had appeared. Based on our Grounded theory approach the new themes arose as we collected the data, based on this the themes that was deemed most interesting therefore changed as the study progressed. This agrees with the emergence of theoretical accounts described by Martin and Turner (1986). Our aim was to let the themes emerge and as the gathered data was collected our analysis became increasingly theoretical, thus the Grounded theory methodology enabled us to increase the abstraction level as we collected the data and got more and more insights and our way of sorting and analyze the data became more theoretically informed.

Based on this study and the interviews gathered in the municipalities, where the degree of transparency is high, the study can be generalized to other municipalities. The central limitation of this study is that is cannot be used for generalization in private organizations. However due to the aim of this thesis the validity is high and the results and its implications can be used as basis for generalization for other municipalities.

Background of the case company and the municipalities

The case company of this report is the developers and distributors of an IT-system that they sell and implement at both private and public customers. The IT-system is composed of several products, whereas one is Business Planning and Reporting. The vision is to be used as a standardized tool that can be matched with the customers' management models, and is easy for the customers to use without too much external help. The company employs both developers focusing on the technical development and adjustment, and consultants to help the municipalities to implement the IT-system in the best suitable way. Thus, the system needs to be not only standardized but also flexible enough to adapt to the management model of their customers. With the aim to make the system easy to use, each development team have one member focusing on the user experience, and thus keeping contact with customers to get their input. Another way of adapting the IT-system to the structure and language of the customers' management models is the consultants being part of the implementation phase, and keeping continuous contact to be able to aid along the way. The strategic choices and prioritizing of future development of the IT-system is done based on what is creating the most value for the wide customer base. The suggestions coming from consultants and customers are brought up and prioritized by the developers based on the focus areas of the year and the resources available. The focus areas are decided each year by a product group including developers and consultants from all areas within the company, with the aim to satisfy the wider customer base in compliance with the case company's vision.

The management models at the municipalities have a diverse organizational structure and the terminology to describe processes differs between the municipalities partaking in this study. Therefore the adjustments available in the IT-system makes it possible for the municipalities to build the system in accordance with their hierarchical structure and the specific terminology used by them, with assistance from the consultants. Common for the three municipalities in this report is that there are different levels when reporting on the business plan. The municipalities are divided into six levels where the highest level, the municipality council contains the politicians that creates the steering document containing the objectives for the municipality to follow. These goals are then decomposed throughout the six levels in the municipality, where the municipal executive board, the advisory councils, and the administration, operation, and branch managers will report on the goals applicable for their specific organization. Before the introduction of the IT-system the divisions planned and reported on their specific objectives by using Word-documents, Excel-sheets, and e-mail, and today it is done through the new IT-system.

When the IT-system meets the municipalities

The new IT-system and the visualization of diverging interests

The decision to invest in a digitized reporting tool was, according to the interviewees, grounded in the need to increase the structure and transparency of the operating control at the municipalities. Each of the municipalities participating in the study have a clear management

model, and some of them have been working with the same model for a long time. The idea of purchasing the new IT-system was for it to be used as a tool to perform the reporting practices, but without making any alterations to the already set management model. Some interviewees expressed that there was not a perfect fit between the management model and the IT-system, but nevertheless the set model of the municipalities was forced into the system.

> "Unfortunately the municipality management model doesn't quite fit into the IT-system. It is written very politically, meaning high and low, in detail, big and fluffy. So there is no systematics in the municipality management model. We have had to force it into a structure that doesn't really exist. " (Operational manager)

Even though the fit between the model and the system was not perfect, alterations were not made to the management model of the municipalities. When putting the IT-system onto the management model, all municipalities express that the structure of the management model became clearer and it was easier to see the connections between the levels in the organization. Thus it was made visible if the management model was used the way it was supposed by managers within the organization. Depending on the intentions of purchasing a new IT-system the users might see different possibilities or constraints with the system. Deriving from the interviews the intentions from the purchase have been to increase the transparency and quality of their business planning and reporting since being able to have more insight in the different levels and having regular and more frequent follow-ups on the reporting. After the implementation the interviewed administration managers have explained that the increased transparency and quality has been made possible due to the clearness of the structure that the IT-system bring. The previous reporting practices, using Word-documents, excel-sheets and e-mail, gave freedom to managers to structure the reports in their own way and consequently the gathering and sum-up of the reports by superiors was time consuming. One interviewee responsible for gathering and merging the reports expressed that it was hard using Word-documents due to the diverse and individual ways of constructing them, and to be able to get an overview of them the interviewee printed the reports and placed them on the desk. The reporting practices, such as formulation of goals and analysis of the yearly operational statement, has earlier been done in an abundance of ways, and has thus been in a need of structure and cultivation. The new reporting tool did not change the management model, but it visualized the structures and routines not functioning as intended. This insight made the municipalities aware of what organizational structures and routines might needed to change. One notion brought up by one interviewee was the fact that the new IT-system made it clear that some branch managers did not do their reporting as they should. This was due to them being able to see if their superiors did their reporting without the branch managers' input, which made them feel like their reporting was redundant.

> "To give an example we have administration managers that enters the IT-system and does their analysis before the branch managers has analyzed their parts. That doesn't create a sense of meaningfulness for the branch managers to report and analyse since the administrational managers already has made up their impression. Then the value is undermined, since it has to follow a certain order; from branch

> manger, to operational manager, to administration manager, to the advisory councils. Then it is meaningful. But if an administration manager completes the reporting before the others has had the chance to complete their reporting then you don't consider the IT-system to be useful. (...) The operational manager is of course welcome to add to the analysis but in certain cases I think that there are branch managers not reporting since they don't perceive that their analysis is requested." (Administration manager)

Following the IT-system it was possible for all levels to see if the reporting was done when supposed, which did not only have an effect on branch managers' reports but in turn made the managers feel supervised. On the other hand the politicians had the ability to see how the objectives set by them were being realized throughout the organization and the managers could see where their objectives and activities derived from and how they aim at driving the municipality forward. In municipalities the transparency is a key point and the IT-system uncovering lack of structures makes it possible to change and see each part of the organization, which they with their former system did not discover. This gained control and transparency have been expressed by some managers creating a feeling of being watched over and controlled, and this has an effect on how these managers uses the system. If not feeling that the reporting is done in your own favor, one manager express that it might not be done as thoroughly as intended. The same manager also express that in the beginning after implemented the IT-system, some branch managers were told by their superiors to only report that everything was in line with the goals since being supervised by the politicians and managers higher up in the municipality.

> "It can be that some feel inhibited, that they doesn't really dare to report. We have had, it has been a big journey with this. I know one manager a couple of years ago told me that; my manager says just write that everything is going well, just fill in green." (Administration manager)

As depicted in this section the system is creating a common way of reporting and is thus minimizing the individualities and local adaptations of using own templates when reporting. The decision to purchase, and the implementation follows a downwards spiraling decision making process in the municipalities affecting every organizational level, thus the IT-system is adapted to, not each branch managers' templates and routines, but the ones intended from the municipality council and their management model. It has also been made clear that the IT-system was brought in to fit the management model and not the reverse. Drawing upon our findings the implementation of the IT-system has resulted in increased coherency, that everyone does the same, in regards of the reporting practices. The reason for purchasing a digitized tool for reporting has been to formalize and create a common way of reporting, and to be able to control and measure the operating control of the municipalities more efficiently. The IT-system has increased the transparency of the municipality and its management model since creating a clear and collective structure as well as visualizing whether the reporting is done properly. Furthermore, by visualizing the faults in the structure it is easier to adjust the routines not working as it is meant. The transparency and structure of the system has also

facilitated a regular and frequent reporting practice. This also means that the politicians and superior managers have the possibility to see if the managers are reporting and through what activities they are realizing the goals of the steering document. The IT-system put in place has thus resulted in increased crystallization of hierarchical levels within the municipalities. The use of the IT-system and the consequences that has had on the users and their actions has resulted in an added use for the reporting practice, and it is no longer just means to sum up and describe what has been done throughout the year but works as a mean to increase top-down control. The transparency, and thus the increased control could be perceived as something positive since superiors are able to see if the reporting is done as supposed. Hence, it is also considered positive by managers operating in this supervising function. This increased top-down control has lead to the managers not being in a supervising position feeling pressured to perform well in the eyes of superiors and politicians, and thus the reporting practice is done, but containing the content they presume being wanted by supervisors. The IT-system is thus perceived and used differently by the managers, and the structures and routines of reporting are affected in accordance.

The Puzzling process of matching the IT-system with the management model

When the IT-system was introduced it was adjusted to the management model of the municipalities and their specific needs. The structure of a public organization, such as the municipalities, might not be the same as for a private organization, and therefore the interviewees at the case company explain that the system can be both visually and functionally different depending on the customer organization and that these differences are possible to manage as a result of the IT-systems adjustability. In the case of municipalities, the structure and routines are built upon their management model, which has differed between the three that has been subject of the study. Several interviewees have emphasized that the management model is the foundation in the operating control of the municipality, and the IT-system is just a digitized tool to use for the reporting activities.

> "We had this municipality specific model, we had already implemented it so our management model was developed in the beginning of the 21st century, or at the end of the 20th century, so we already had a model for operations management since a while back that was well founded within the municipality. What we needed was a digital tool to perform our reporting (...) We had decided that the IT-system we would purchase was not going to alter our management model but the IT-system should be adapted to our model." (Administration manager)

Therefore, the IT-system is, with the help from consultants, built upon the specific terminology used by the customer municipality. The intention is for the IT-system to look as similar to the previous reporting practices as possible for the managers to recognize what needs to be done, without excessive education. Managers being part of the implementation explain that one focus have been to limit the views and functions of the branch managers to decrease the confusion, and to make it clear where the branch manager is supposed to go in the system and what to do. While some municipalities have adjusted their routines by trying

to restrict the individual freedom through increased transparency and coherence in reporting enabled by the IT-system, some still do local adaptations throughout the organization and between divisions. When reporting in Word-documents some managers had their own templates, and are therefore requesting adaptations to the IT-system to facilitate a match to their way of working.

> "Then you can do certain variations, but here is the headlines, go ahead and report, that should be determined from here [centrally]. But then there are a lot of persons that has lots of requests. They want that headline and so on and then I have fulfilled those requests but that might not have been as intended. But I did it anyway. So we have fulfilled lots of requests (...) It is both branch managers and administration managers that want their structure, it is lots of "this is what we had before, this is what it looked like before" and that means that it has been very varying. And I have catered for their wants, that they wanted a certain structure." (Administration manager)

It is not only local adaptations of the IT-system being made due to personal preferences, but also due to specific structures in some administrations. One example of the shaping power that the municipalities' practices have on the IT-system being brought up in all municipalities is the specific needs of the school administration. This administration does not work in the same structure as the rest of the municipality since reporting on governmental goals and not only on the objectives decided upon by the municipality council, and can therefore be in need of local adaptions. At one municipality they already had a clear structure that they were working according to before the IT-system, and hence they adapted their part in the IT-system to their specific needs. Due to restrictions in the attributes of the IT-system the school administration is still working in Word-documents as a complementing system when reporting, and the system has not been able to be completely adapted. However, some branch managers have expressed that since the structure and frequency of the reporting has increased due to the system the communication between the branch managers within the same administration has increased, and when the reporting is done at the same time a year it has been easier to exchange information in between operations.

> "I fill out the quality reports once a year. I have had a Word-document that I continuously update throughout the year, and then once a year I enter the quality report [the IT-system] (...) it [the quality report] is not sufficiently developed in the IT-system so that it works but I believe that it could be, because we report on learning goals in August, in January, in March, June. We do differently but suppose we could do it in the IT-system instead, today I fill out the Word-document and then copy paste everything into the IT-system at the end instead" (Branch Manager)

Derived from interviews with representatives from the case company it becomes clear that the IT-system is developed to be able to adapt to the specific needs of the customer, and the system is in constant change. The interaction between the case company and customers

enables a constant exchange of ideas and requests, and the ability to adapt to the new needs arising within the customer organizations. These needs arises from existing practices at the municipalities, and if those are shared by others and considered by the case company to generate value for the wide customer base, the IT-system is altered or complimented as a result. Thus the organizational structures, routines and practices at the municipalities are affecting the IT-system as a whole and through smaller technological functions.

As discussed the IT-system is adjusted to fit the underlying routines, and structures of the customers. If the case company deems it valuable for a broader customer base new technological functionality may be prioritized and developed to increase this match. Local adjustments are being made to the IT-system to reflect the internal variations between different administrational and individual structures and practices within the municipalities. By doing these local adaption the managers can continue their former reporting practices through the use of the new IT-system, and the IT-system does not look the same throughout the municipalities. As the IT-system is built to reflect local practices and the existing management model, local adaptations are made during the design phase, but once designed, the general impression derived is that practices are defined and concretized. The IT-system thus results in a more pronounced and formally defined way to plan and report, and through its use actors within the organization becomes more accountable for their reporting. Since managers are reporting according to the same structure and the transparency of the system has increased the control and the pressure to report in time, as well as that the communication between managers has increased.

The power of perception when using a digitized reporting tool

Not everyone uses the IT-system as habitually as some interviewees have expressed, and the routines have without telling changed since the implementation of it. Although some interviewees are still using Word-documents, their routines have changed to some extend since using both systems simultaneously. Deriving from the interviews the use of the IT-system is differing depending on the specific user in the municipalities, and reasons why seem to be diverse depending on occupation, and position in the hierarchy. Some interviewees express that it has to do with the easiness of the system, others that the old way of reporting was good enough and that learning a new system is time consuming, thus the system is used to a minimum. The focus of the case company, and the managers working with structures and routines of the system for their subordinates to use, express that the main reason for not using the system to its fullest is due to the complexity of the system. In order to come to terms with the lack of reporting through the IT-system emphasis has been put on user experience and how to make the system as similar to the management model and the old way of reporting, by doing local adaptations. Derived from interviews many different perceptions on the simplicity and use of the IT-system has been gathered. The general impression expressed by the branch managers, was not that the system was difficult to understand and use, in contrary the general understanding was that the IT-system was easy to understand and that there are visual attributes, such as different views, reminders for reporting, and colors to highlight the important parts in the system aiding the use.

> "It is a pedagogical tool. Fill out red, and yellow, and green if goals are fulfilled and so forth. The menus are easy to navigate between. I am not overly technical and if I have managed to learn by doing it is not too advanced so to speak " (Branch manager)

The branch managers being interviewed have expressed that their minimal use of the system has to do with their old way of reporting being structured in accordance to how they like it and is thus perceived better, and that learning a new system is time consuming, especially in the beginning. Another contributing factor for the seldom usage by some interviewees is that it has been more difficult to learn since they need to think twice each time they enter the IT-system. Due to the reasons mentioned some branch managers still use the Word-documents as a complement to the new IT-system, which in turn leads to them using the IT-system less frequently. They are doing the continuous reporting during the year in a Word-document and the yearly operational statement in the IT-system. Thus actions are put in relation to the IT-system, as addressed by interviewees not completely conforming to set procedures. Mentioned by some interviewees is how the focus have changed from structuring templates to emphasizing the analysis, and the formulation of goals, and how they should be formulated to be able to be measured and achieved. One interviewee explains that they did not work with measurable goals before the entering of a new system.

> "And furthermore that we have begun to think in measurable goals. When you receive all those reports that I used to get in a Word-document, and you see how some managers formulate their objectives, that is a journey that you have been forced to think much more in terms of measurability when you have those headlines and boxes, activities, objectives, reporting and so on." (Operational manager)

Before the new system there were not as high requirements on the analysis, fashion of writing reports, or on formulating goals. Due to the new IT-system the managers thus needed to be educated in how to formulate measurable and achievable goals and put more focus on that part in the reporting routines. The need to regularly report on goals and activities in the IT-system made it easier for the managers in the end of the year when writing the operating statement, since being able to look back at the history, the difficulties they have had, and the realized activities for each project during the past year. Since the ability to see the history of what has been written earlier during the year they also have the possibility to report back on each activity. When doing the yearly operational statement the managers need to be more analytical from the beginning and be more thorough before sending it to their supervisor since the IT-system is making it harder to update after being sent. One interviewee explains how this continuous reporting was not as frequently done before, and how the IT-system by visualizing all activities and projects, help prioritizing and align operating objectives with the municipality goals.

> "I think that we have become less inconsistent, or rather, we less frequently initiate small project that are not supporting our objectives, our overall objectives

> (...) Yes and that is a way to increase continuity over the year, and it is a way to put [things] in relation, you can question the reasons behind doing something or why we are working with something, or somethings you should do according to the business plan, you can question. Sometimes it can be motivated to do something else but then you have to motivate why. So it is good for me as a manager. (...) but all things considered we have become increasingly aligned with our objectives through the use of the IT-system" (Administration Manager)

Displayed in this part is how the reporting practices has changed since the implementation of the IT-system, for both those who are still using the Word-documents, and those who are fully using the new tool. The implementation phase have focused on making the structure and visual features of the system as easy as possible for the users, with the aim that the managers will use the system as intended. The easiness of the system seems to have succeeded when listening to the users, while the advantages and disadvantages with the system differs depending on their role within the process of reporting. Some advantages describes has to do with the ability to look back at the history, prioritizing and the merging of reports, but even though the advantages are more to count, the seldom use and the time it takes to learn seem to work as a set back. The new system together with higher demands on analysis, and goal formulation since utilizing measurable goals put pressure on the users. Furthermore it clearly depicts that the practice of reporting evolves along with the IT-system and its use.

Managers' understanding and use of the IT-system

One element that seems to affect the way the IT-system is adopted is the interviewees' background knowledge and their view on IT-systems in general. One shared understanding generated from interviewees working with technology in their day-to-day work is that the understanding of the IT-system and its possibilities has been crucial for them in their way of working. Based on past experiences they can see the possibilities with the IT-system and know that there are constraints in every IT-system, and thus several systems are needed. Comparing that to branch managers with background in IT and who are working on daily basis with several systems see how those are complementing each other and thus understand and express that this system is good for the purpose of it. For the interviewees with a technical background the system is not only used as a mandatory reporting tool to communicate goal fulfillment to superiors but also used for their own follow ups.

> "You can either buy an all inclusive IT-system covering lots of different needs, and yes that might result in that you have to work in fewer systems, but it is not certain that it fits the task or it might be inconsistent in comparison to if you find an IT-system that fits the task really well. You have that to relate to." (Branch Manager)

Drawing on what has been discussed above the processes when implementing and using this new IT-system is complex and contain several actors and practices affecting each other. The case company containing both developers and consultants is constructing the system according to their intended use, but also after entering the municipalities they are affecting

and adjusting the system in accordance to the needs of the municipalities. The recursive relation between the IT-system and the municipalities' management model and the processes in between it is continuously volatile. The system conform to the structure of the management models and by allowing the local adaptations, both due to administrations and individual preferences, the users needs are met. By unveiling the structure of and the practices behind the management model, and increasing the transparency and control within the municipality, new processes have been promoted such as more profound analysis and goal formulation. The managers within the municipality have had different view on the system, both regarding the use and purpose. While the focus of the superior managers have been the easiness of the system, the lower level managers, such as the branch managers have discussed how the old reporting system is operating as a complement to the new one, and thus the use of the new one is not frequent. The seldom use thus makes it more difficult to learn, and it becomes time consuming. Although those with more background knowledge regarding IT-systems now how to use the system to get the most out of it, and thus use it more frequently and with another purpose.

The frictions when striving for both standardization and flexibility

This thesis set out to investigate to what extent an IT-system promoted as flexible is adjusted to conform to varying local needs and to what extent the local practices are altered to fit with the IT-system. This has been investigated through a case study of three municipalities using an IT-system developed by the case company. In order to limit the scope we have conducted interviews at the case company and the municipalities to capture how the practice of planning and reporting is done and manifested through the IT-system. Furthermore we have addressed the preceding actions and ambitions affecting the layout of the IT-system as well as what actions are promoted by the use of the same system. Our study shows that there are two main processes occurring at the three municipalities, a standardization process and a flexibility process. Besides these contradictory processes the IT-system has a dual role both as a facilitator and a constrainer in regards to simultaneously driving flexibility and standardization.

	Standardized system	Flexible system
Facilitate	• Coherency • Individual accountability • Control (e.g. increased top-down)	• Local needs/preferences • Control (better insight in each operation)
Constrain	• Local needs/preferences • Control (e.g. not reporting the truth)	• Central Control • Coherence • Central management

Walking the path of standardization

The IT-system has through its standardization processes operated as a facilitator for some actions in certain cases and as a constrainer in other. Coherency, individual accountability and control are three processes being facilitated through the standardized IT-system being subject of this study. Starting with the coherency that has been experienced by managers and the notion of the steps being clearly defined in advance is well aligned with the idea that IT-systems affects practices as it causes routinized action patterns. One explanatory reason derived from the case study is that the need for a more structured way of reporting is established internally at the municipalities, and the case company consultants are thereafter brought in to investigate the current practices and the organizational structure. This investigation results in an IT-system designed to fit local practices and the municipality management model and as the underlying processes were mapped out the structures and behaviors became more visible. The mapping out of actions patterns within the municipalities has been the foundation towards creating a common structure for the reporting practices, and the system has been a tool enabling this coherency. The IT-system has facilitated the means to increase coherency and establish a common structure and reporting practice. This agrees with Kallinikos (2004;2005) arguments and shows that as the practices and processes are mapped out to match the IT-system with the organizational structure it increases the visibility of action patterns. These actions patterns are linked together and through the use of the IT-system transformed from individual actions into organizational procedures.

Drawing upon the findings of how the reporting practices are defined and concretized we argue that the intentional use of the IT-system, to increase structure, has been realized, and that this has affected the reporting practices to that extent that each actor reporting has become more accountable for following the intentions of others. As the use of the IT-system progress the reporting practice has become means for top-down control, and consequently more formalized, institutionalized and hence more standardized. This standardization is not surprising given Kallinikos (2004; 2005), Canales (2013) and Spee et al.'s (2016) findings. However, even though action patterns and routines has become more transparent there are changes and local adaptations occurring continuously, and since the standardization makes those practices more transparent the possibility to detect inefficiencies arise and causes the need for further alterations. This is aligned with Feldman et al.'s (2016) arguments that effortful actions are necessary to transfer and implement routines. Thus even though the use of the IT-system results in increased stability in the reporting practice this stability is achieved by alterations being made by the actors, may it be alterations to the IT-system or to the reporting practice. In this line of thought we argue that in accordance to Feldman et al.'s (2016) reasoning the reporting practice and routines appear stable in a given moment but changes has occurred to bring about that sense of stability and will continue to happen as time pass and the IT-system is further used.

That the new reporting practice has lead to increased structure and control, and that it has changed since implementing the IT-system is in accordance to Kallinikos (2004) a consequence of implementing an IT-system with pre-determined action patterns. These pre-

determined action patterns and the specific attributes of the system discussed by Orlikowski (1992) and Kallinikos (2004) is a way of routinizing the processes surrounding reporting and steering the users. The reporting tool is then working as a frame of processes within which the managers are working, and where they are restrained to the attributes built into the IT-system. This standardization brings efficiency since decreasing improvisation and creating a clear path for the reporting practices to wander. The efficiency has been brought up by Canales (2014) as the result of standardized routines, and is in line with the reasons for purchasing the IT-system according to the municipalities. The standardized system has thus brought coherency, increased control and individual accountability. This is in agreement with Spee et al.'s (2016) reasoning that the IT-system brings coherency and more repetitive reporting practices and thus the system has enabled a more efficient way to organize and control the reporting practice. However our findings show that the standardizing process occurring as a result of the use of the IT-system is not only made possible by increased structure as Kallinikos (2004) has argued. In fact that the actions patterns and reporting practices are made visible when mapped out has resulted in alterations being made to the IT-system and to the perceived efficient ways to report. These findings should not be interpreted as a representing duality as argued for by Orlikowski (1992) but rather in agreement with Leonardi (2011) and shows that the IT-system and the practices are imbricated and thus highly intertwined.

The possibility of being both facilitated and constrained through the use of a standardized system

The standardized IT-system has facilitated some processes as discussed, but it can also bring a sense of constraint to the organization, which has been described by the managers though for example the minimized individual freedom. The reasoning of Canales (2013), that efficiency is deriving from standardized routines and procedures that are centrally managed, implying that there are no or little local adaptations, can be perceived differently. Some actors within the municipalities has described the processes driving increased efficiency as facilitating but others as constraining, since not taking local needs into account. Drawing on the feeling of supervision and the untruthful reporting, this diverse view on the standardized system is also apparent in regards of the increased control where superiors describe it as a facilitator and subordinates as constrainer. In these cases the IT-system is not used by managers as intended by either the case company or the ones at the municipalities purchasing the system, and the practices of reporting is affecting in accordance. As discussed by Orlikowski (2000) the practices of the users are important when implementing a new system since the implementation of an IT-system itself as brought up by Kallinikos (2004) can facilitate increased top driven control, but the intentions does not decide how it is used. The intentions built into the system, the thought when implementing and the practices of the users might not be in line, and the practices of the managers within the municipalities is thus the one to determine whether or not the system is successfully used, not the system itself. The routines attached and used when reporting is executed at different organizational levels within the municipalities. These processes are then affected by different actors with different motives, and it is thus harder to control whether the incentives conform or not to the standardized and intended routines. We argue that the IT-system is reified and institutionalized, to use the

words of Orlikowski (1992), by the users differently depending on their interpretations and reasons for reporting. The thought of having a standardized system is to create coherency within the practices of reporting and thus increase the efficiency of the municipality, but drawing on the insights of Kallinikos (2005), and Orlikowski (1992) that IT is affected by the local context, the branch managers use of the system is affecting the organization's efficiency. Paradoxically depending on organizational level the same adjustments to local needs and the increased control can appear as facilitating or constraining.

The role of the IT-system as means to increase organizational responsiveness

There are three main actors that affect each other; the case company, the municipalities and the IT-system, and as depicted throughout our study alterations to the IT-system are being made in dialogue between the case company and the municipalities to best reflect current reporting practices and the organizational structure. It is the people that judge the necessity of, prioritize between, and finally if deemed appropriate, make the alterations. This customization to local needs to use Spee et al.'s (2016) term reflects the contextual importance of the setting where the IT-system is being used. Strengthening that reflection, that the people within the municipalities and the case company are the ones who identify, and are capable of making perceived changes to the IT-system, is supported by previous research such as that of Leonardi (2011). Meaning that a perceived flexibility of an IT-system is put in relation to its context. It becomes evident based on our study in regards of the negotiation between different actors and interests that the IT-system is both socially constructed and that every alteration to the IT-system reflects underlying social practices. On that regard Leonardi's (2011) insights that sufficient skills and knowledge of how to do such alterations, and whether or not such adjustments will be realized is socially embedded can be traced in this case as well. That the IT-system is socially embedded is clearly depicted in this case as the flexibility of the IT-system has enabled already established practices to be reinforced, the current management model to be increasingly stabilized, and the cultivation of relational ties between the case company and the municipalities following the dialogue advancing the technological adjustments. These findings show, in contrast to Kallinikos (2004;2005), that the contextual importance and social embeddedness cannot and should not be downplayed when trying to understand and analyze what actions are promoted through the use of an IT-system.

Another aspect arising from our empirical findings is that of operational control. As the IT-system is being adjusted in accordance to the management model of each municipality, these alterations thus facilitate the possibility for the municipalities to use the system as a tool for the already established operating control. These findings emphasizes that the already established way of working is being done in a new way through the use of the IT-system. It is not the reporting practice or the structure of the reporting that has been altered but the IT-system has been put in place onto an already existing procedure. We want to emphasis the linkage between the reporting practice and the IT-system as a facilitator of new ways to report, since it is not the practice meaning to what extent or to what end the reporting is being done but rather through which medium that has effects on how the reporting practice is performed. This function of technology, or in this case an IT-system makes us reflect upon

the arguments presented by Leonardi and Barley (2008) who discuss that material properties are means to both perform old practices in a new way, and to find new ways of working. In the case of the municipalities, the IT-system enabled the managers to report in a more coherent way with increased transparency, and added a more analytical dimension to the reporting practice. Having this in mind when once more revising our findings presents an interesting idea in regards of the IT-systems flexibility; it is the adjustments and customizations that represent the ways of doing old things in a new way. Hence one could argue that the flexibility of the IT-system helps people remain the same, they still report on the same type of objectives following the same organizational structure. In regards to the IT-system being altered to enable operational control through increased visibility and transparency as presented in our findings we believe that this supports Kallinikos (2004) arguments that increased visibility and the mapping of processes shows that the IT-system in this case is used to increase control within the municipalities. As the adjustments are being made in order to facilitate increased controlling mechanisms within the municipalities in regards of how, when and by whom the reporting is being made shows that the IT-system is used to monitor and control the reporting practice. Furthermore the adjustments that has been made to match the existing management model has facilitated increased transparency in the reporting practice and thus, in extent increased the possibility to exert control.

Given that local variations in terms of reporting practices exist both externally and internally, between and within the municipalities the perceived need for adjustments became evident. Locally adjusted features and technological functions enabled variations in terms of practices and procedures. These practice variations are manifested through the IT-system that is adapted to the needs of specific divisions at the municipalities. These findings agrees with Canales (2014) where the existence of local variations often result in the need for flexibility, where it may be a routine or as in our case a flexible IT-system. Furthermore the room for adjustments that are being made suggest that local organizational procedures and structure allow for differences in how reporting is being done. Drawing upon Leonardi's (2011) research this would entail that the municipalities allow for variations and that an identified need for local adaptation is heard and responded to. One clearly depicted example of this responsiveness to a localization is that the IT-system is being adjusted both to facilitate a match between user preferences as well as to fit local differences in structure of the administrations.

Taking the perspective of the case company for a moment, they are willing to make large-scale alterations that align different customer interests. We argue that this shows the recursive relationship between the IT-system, municipalities and the case company. As the need for alterations is being brought to the case company in dialogue with customer organizations, this wish is then manifested through the IT-system if being regarded by the case company as valuable for many. This relationship agrees with Orlikowski's (1992) portrayal of the shaping power that users, designers and technology have on one and other and that the relations shape the practices and is manifested via the materiality of technology.

The contradiction of using a flexible system

The perceived favorable effects on a local level when adapting to individual preferences can be perceived negative on a central level, due to the difficulties arising when merging the reports, and where the aim has been to standardize and make the operating control and reporting easier. The flexibility of the system is, as discussed by Canales (2013) responding to the local needs of the organization, and the need for both standardization and flexibility within the same organization can create tensions, even if an organization with standardized and flexible routines in combination would allow for a wider range of practices (Spee et al., 2016). In this case the local alterations are perceived valuable for different reasons at different organizational levels, since for some managers adjustments are necessary to facilitate a fit between former ways of reporting and the new reporting procedure, and as is argued by Canales (2013) flexibility is amplified when the need to respond to local circumstances occur. This adaptability portrayed thus makes for local variations in how the reporting is conducted, and as discussed by Spee et al. (2016) there are different actions patterns being promoted depending on the reason for changes. Some actions such as the responsiveness to local needs will amplify variations within organizational procedures and other such as the need for coherency will increase standardization. Thus the conflicting processes occurring are not unheard off and we can therefore conclude that the tension created between the two has effects on what actions will be promoted and whether or not the IT-system enables efficiency.

Keeping in mind that the main purpose of purchasing the IT-system was to increase transparency and aid a more efficient way to account for object fulfillment we argue that the ability to alter the IT-system continuously in some way constrain certain actions in the organization. We believe that, as the main purpose of the implementation was to lock step the reporting practice through the mapping of processes to use Kallinikos (2004) description and create a reporting structure that promoted standardizing action patterns local adjustments following after the IT-system is put onto the management model constrains the standardizing process depending on hierarchical level. We would argue that when local adaptations are made the reporting becomes less coherent as a result of the flexibility of the IT-system, this is perceived as necessary to facilitate a match between varying reporting practices and the IT-system between divisions. The flexibility of the IT-system is thus perceived as positive for some as it makes for local adaptation. This adaptability has been discussed by Spee et al. (2016) and is referred to as customization driven by responsiveness to local needs and valuable if variations are deemed important. On that note we argue that the local variations seen in this case are perceived as valuable since without adjustments the similarities between former and current reporting practices would diverge, as the IT-system on one hand is thought to be as easy as possible for users to use without extensive training the customization has been promoted. On the other hand this customizing process enabled by the IT-system is to some extent misaligned with the purpose of the purchase. In fact the flexibility and local adjustments constrain top-level managers' ability to efficiently compile coherent reports. We would like to argue that there are conflicting needs within the organization, some being met through the standardization process made possible through the use of the IT-system, and other needs will be heard and answered to through the flexible design of the IT-system. This line of

reasoning agrees with Canales (2013) and Spee et al.'s (2016) explanations on what drives flexible and standardization processes in organizations. However, in this case the managing of the tension between conflicting processes is not addressed sufficiently if taking Canales (2013) arguments about managing tensions into account. Thus we would argue that there are two processes occurring being amplified by different needs; one driving flexibility and responsiveness locally and the other driving standardization in response to centrally determined needs.

Conclusion

We have investigated how an IT-system drives both processes of standardization and flexibility within the same organizations. Furthermore, addressed are the interrelations between human actors, structures and an IT-system. This case study represent a concrete example of the adjustable IT-systems role as driving processes of standardization and flexibility simultaneously. The study reflects a variety of different interests, human and technological, as well as the difference in power between different organizational levels manifested through the use of a flexible IT-system.

The first main implication we have found is that the IT-system facilitates a standardizing process through actions increasing coherency, individual accountability and central control. As the use of the IT-system progress the reporting practice has become means for top-driven control and consequently more formalized, institutionalized and hence standardized reporting practices. The standardization process is generated through the mapping of the reporting practices and as this mapping is done inefficiencies are made visible. This has resulted in alterations being made to the reporting practices as well as to the IT-system in order to come to terms with the identified inefficiencies. It has become clear that the IT-system and the reporting practices are imbricated and that one will affect the other driving alterations and stability simultaneously. Secondly, we have found that the IT-system facilitates a perceived flexibility in terms of its layout and looks. Thus, the technological flexibility enables reporting practices to be reinforced and the management model to be stabilized and sedimented into the organizations. The flexibility process occurs as a result of local variations and is manifested through adjusted features and combinations of the IT-system. Our findings show that the existence and responses to local variations has amplified the need for flexibility. Last but not least, we have found that there is an intricate relationship between standardization and flexibility within the organizations. The standardizing process occurring is laced with both positive and negative connotations and the same can be said for the flexibility process happening simultaneously within the same organization. When responding to local needs the flexibility process is amplified creating room for variations and a customization of the reporting practices and the IT-system. In contrast, the need to create a common reporting structure and increase coherency increase the standardization process. These two processes are the results of conflicting motives and uses of the IT-system and creates tensions that are made visible through the use of the IT-system. It is not one or the other but the standardization process and flexibility process are occurring simultaneously in relation to each other facilitating and constraining actions as they progress.

This case study and the conclusions drawn can be adds to the field of research and based on our findings we argue that when using an IT-system that can be customized it results in two processes within the organizations. One flexibility process will occur when the organization i responsive and value local variations and needs. This study further shows that a simultaneously driven process occurring in the organizations using is that of standardization. When organizational efficiency and coherence is sought and argued for more sufficiently than local interest the IT-system will be used to facilitate standardization. Based on these conclusions we argue that the adjustability of the IT-system enhances both organizational flexibility and standardization. When using an adaptable IT-system the dual processes of flexibility and standardization will occur simultaneously. This has implications for the management of the IT-system as local variation can be institutionalized through the technological adjustability of the IT-system and thus result in decreased central control and efficiency. However varying layout of the IT-system allows for an organizational responsiveness to local needs. This will create a tension between diverging internal interests and thus needs to be reflected upon.

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